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24 July 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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(54) Title: HUMANIZED ANTIBODIES

(57) Abstract: Humanized forms of mouse antibody 10D5 that retain the binding properties of mouse 10D5 are disclosed. Also disclosed are processes for making the humanized antibody, intermediates for making the humanized antibodies, including, nucleotide sequences, vectors, transformed host cells, and methods of using the humanized antibody to treat, prevent, alleviate, reverse, or otherwise ameliorate symptoms or pathology or both, that are associated with Down's syndrome or pre-clinical or clinical Alzheimer's disease or cerebral amyloid angiopathy.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/11854

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 39/395, 39/40, 39/42; C12N 5/00, 5/02
US CL : 424/133.1, 152.1; 435/387.3, 388.23

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 424/133.1, 152.1; 435/387.3, 388.23

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Medline, Caplus, Embase, Biosis, WEST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JONES, P.T. et al., Replacing the complementarity-determining regions in a human antibody with those from a mouse. Nature. 29 May 1986, Vol. 321, pages 522-525, see entire document.	1-6
Y	FRENKEL, D., et al., N-terminal EFRH sequence of Alzheimer's beta-amyloid peptide represents the epitope of its anti-aggregating antibodies. J Neuroimmunol. 1 August 1998, Vol. 88, No.1-2, pages 85-90, see entire document.	1-6
Y	FRENKEL, D., et al., High affinity binding of monoclonal antibodies to the sequence epitope EFRH of beta-amyloid peptide is essential for modulation of fibrillar aggregation. J. Neuroimmunol. 1 March 1999, Vol. 95, No. 1-2, pages 136-142, see entire document.	1-6
Y	PARVIZI, J., et al., The Selective Vulnerability of Brainstem Nuclei to Alzheimer's Disease. January 2001, Vol. 49, No. 1, pages 53-66.	1-6
P	US 6,316,601 B1 (HUANG, X., et al.) 13 November 2001, see entire document.	1-6

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"B" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
25 April 2003 (25.04.2003)	22 MAY 2003
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer G. R. Ewoldt Telephone No. 703-308-0196

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/11854

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☒ Claim Nos.: 7-29
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.